

## VCO WITH HIGH-Q SWITCHING CAPACITOR BANK

### ABSTRACT OF THE DISCLOSURE

Circuits and methods for tuning voltage-controlled oscillators. A control voltage is applied through an isolation resistor to a varactor. The varactor capacitance is AC coupled through a second capacitance. The control voltage may be analog or digital. In a specific embodiment, multiple tuning diodes, and both analog and digital control voltages are used. The isolation resistor is outside the VCO tank circuit for low phase noise, excessive  $K_{vco}$  is reduced, and the control and output voltages of the oscillator may swing over the entire supply range. The varactor capacitance may be junction, MOS, or other type of varactor.

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